Listing of the Claims:

Please amend the claims as follows and replace all prior versions and listings of the claims in the application with the following listing of claims:

1. (Currently Amended) A method for constructing an overlay multicast tree to deliver data from a source to an identified group of nodes, the method comprising:
identifying a plurality of nodes;
mapping the nodes into multidimensional space;
constructing a circular geometric region comprising a size that is the minimum size necessary to contain the source and all the nodes;
creating a polar grid within the geometric region comprising a plurality of cells such that all of the cells comprise an ~~substantially~~ equivalent amount of area;
dividing the circular geometric region into a maximum number of rings such that there is at least one node in each cell except for cells disposed in an outmost ring; ~~and~~
creating a tree beginning at the source and including all of the nodes within the geometric region; and
using the created tree as the overlay multicast tree to deliver data from the source comprising a provider of a given service to an identified group of nodes comprising subscribers having access to the given service.

2. (Canceled)

3. (Original) The method of claim 1, wherein the step of mapping the nodes into multidimensional space comprises mapping the nodes into multidimensional Euclidean space.

4-5. (Canceled)

6. (Previously Presented) The method of claim 1, wherein the step of creating a tree comprises selecting a representative node for each cell containing at least one node and connecting first to the representative nodes.

7. (Original) The method of claim 6, wherein the representative node is selected to be the node within each cell that is closest to the source.

8. (Original) The method of clam 7, further comprising, for cells containing two nodes one of which is the representative node, connecting the representative node to a second node in the same cell and using the second node to connect to the representative nodes in at least two cells in an outer ring.

9. (Original) The method of claim 7, further comprising, for cells containing three or more nodes one of which is the representative node, selecting a second node in the same cell to connect to additional nodes in the cell and selecting a third node in the cell to connect to the representative nodes in at least two cells in an outer ring.

10. (Original) The method of claim 6, further comprising connecting additional nodes within each cell.

11. (Currently Amended) The method of claim 10, wherein the step of connecting to additional ~~points~~ nodes within each cell comprises using a constant factor approximation algorithm.

12. (Canceled)

13. (Currently Amended) The method of claim 1, wherein the step of constructing a polar grid comprises dividing the circle into a plurality of rings by constructing a sequence of circles of decreasing radius concentric with the source such that each subsequent circle divides ~~substantially~~ in half an area bounded by a next largest circle, and placing a number of the cells into each one of the plurality of rings such that the

number of cells per ring doubles with each ring moving radially outward from the source.

14. (Canceled)

15. (Original) The method of claim 1, wherein the step of creating a tree comprises using an out-degree less than two for each node in the tree.

16. (Currently Amended) A computer readable medium containing a computer executable code that when read by a computer causes the computer to perform a method for constructing an overlay multicast tree to deliver data from a source to an identified group of nodes, the method comprising:
identifying a plurality of nodes;
mapping the nodes into multidimensional space;
constructing a circular geometric region comprising a size that is the minimum size necessary to contain the source and all the nodes;
creating a polar grid within the geometric region comprising a plurality of cells such that all of the cells comprise an ~~substantially~~ equivalent amount of area;
dividing the circular geometric region into a maximum number of rings such that there is at least one node in each cell except for cells disposed in an outmost ring; and
creating a tree beginning at the source and including all of the nodes within the geometric region.

17. (Canceled)

18. (Original) The computer readable medium of claim 16, wherein the step of mapping the nodes into multidimensional space comprises mapping the nodes into multidimensional Euclidean space.

19-20. (Canceled)

21. (Previously Presented) The computer readable medium of claim 16, wherein the step of creating a tree comprises selecting a representative node for each cell containing at least one node and connecting first to the representative nodes.

22. (Original) The computer readable medium of claim 21, wherein the representative node is selected to be the node within each cell that is closest to the source.

23. (Original) The computer readable medium of clam 22, further comprising, for cells containing two nodes one of which is the representative node, connecting the representative node to a second node in the same cell and using the second node to connect to the representative nodes in at least two cells in an outer ring.

24. (Original) The computer readable medium of claim 22, further comprising, for cells containing three or more nodes one of which is the representative node, selecting a second node in the same cell to connect to additional nodes in the cell and selecting a third node in the cell to connect to the representative nodes in at least two cells in an outer ring.

25. (Original) The computer readable medium of claim 21, further comprising connecting additional nodes within each cell.

26. (Currently Amended) The computer readable medium of claim 25, wherein the step of connecting to additional ~~points~~ nodes within each cell comprises using a constant factor approximation algorithm.

27. (Canceled)

28. (Currently Amended) The computer readable medium of claim 16, wherein the step of constructing a polar grid comprises dividing the circle into a plurality of rings by constructing a sequence of circles of decreasing radius concentric with the source such that each subsequent circle divides ~~substantially~~ in half an area bounded by a next largest circle, and placing a number of the cells into each one of the plurality of rings

such that the number of cells per ring doubles with each ring moving radially outward from the source.

29. (Canceled)

30. (Original) The computer readable medium of claim 16, wherein the step of creating a tree comprises using an out-degree less than two for each node in the tree.

31-36. (Canceled)